



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/647,129

08/22/2003

Michael Ermert

HM-529

1041

7590

03/01/2005

Friedrich Kueffner
317 Madison Avenue, Suite 910
New York, NY 10017

EXAMINER

DONOVAN, LINCOLN D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/647,129	Applicant(s) ERMERT ET AL.	
	Examiner Lincoln Donovan	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 10-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claimed method, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11-22-04.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krimmer et al. [US 6,138,986] in view of Hosoya et al. [US 5,402,824].

Regarding claims 1 and 3, Krimmer et al. discloses a solenoid arrangement comprising:

- at least one excitation coil [20];
- an armature [18] arranged concentrically relative to the excitation coil and axially movable when the at least one excitation coil is supplied with current;
- a yoke members [figure 2 and 22] forming a magnetic circuit secured within the plastic material; and
- a housing cover [2] formed of plastic material having at least one attachment flange [6, 7] for mounting the solenoid arrangement [column 2, lines 18-25].

Art Unit: 2832

Krimmer et al. disclose everything claimed except the specific structure and arrangement of the yoke members.

Hosoya et al. discloses solenoid valve [figure 2] having a magnetic circuit formed of a cup shaped magnetizable housing member [22] at a first axial side and a yoke member [29] covering the first axial side of housing member and closing a magnetic circuit therebetween.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the yoke arrangement of Hosoya et al. for the yoke structure of Krimmer et al. in order to optimize flux.

Regarding claim 2, Krimmer et al. discloses the solenoid including contacts [23] of an electric plug for contacting the excitation coil embedded in the plastic material [figure 1] with the plastic material forming a plug housing of the electric plug.

Regarding claim 4, Krimmer et al. discloses a sleeve [21] mounted in the housing surrounding the armature. Krimmer et al. disclose everything claimed except the sleeve being welded on one of the yoke members. Hosoya et al. further discloses the yoke member having a sleeve [24] mounted therewith. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further use the sleeve mounting design of Hosoya et al. in Krimmer et al., as modified, in order to facilitate assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to weld the sleeve onto the yoke member in order to secure therewith.

Regarding claim 5, Krimmer et al. discloses a guide member [12], enclosed by the sleeve, having an armature plunger [11] extending therethrough.

Regarding claims 7-9, Krimmer et al. discloses the plunger engaging a rotatably mounted ball [9]. Krimmer et al. disclose everything claimed except the ball being rotatably supported by the plunger in a valve slide. Hosoya et al. discloses a plunger rotatably supporting a ball [figure 2].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plunger design of Hosoya et al. for the plunger of Krimmer et al., as modified, in order to insure proper valve seating.

Krimmer et al., as modified, disclose everything claimed except the specific type of valve controlled. The specific configuration and type of the valve actuator would be an obvious design consideration dependent upon the specific application.

Conclusion

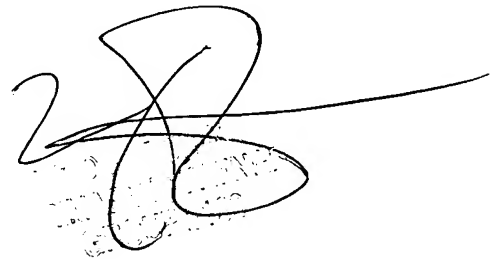
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 571-272-1988. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ldd

A handwritten signature in black ink, featuring a large, stylized 'Z' or 'S' shape with a horizontal line extending to the right.